REMARKS

Favorable reconsideration of this application, as amended, is respectfully requested.

In the drawings, Fig. 3A has been designated "background art".

A new Abstract has been provided consistent with amendment of Claims 1-3 which now recite base current increases from an idling current. The claim amendments avoid the issue raised by the Examiner in the rejection under 35 U.S.C. § 112, second paragraph, but Applicants do not agree that the added limitation "forward base current" introduces new matter. The terminology now employed in the amended claims is clearly supported by the specification. See, e.g., page 6, lines 2-16; and page 8, line 21 to page 9, line 10; and page 10, line 1, to page 11, line 7.

Independent Claim 1 recites, inter alia, that when a base current increases from an idling current and produces an amount of overcurrent exceeding a previously set value, by detecting the amount of the overcurrent and subtracting the amount of the overcurrent from the base current, an increase in a collector current of the amplifying element is restricted.

Independent Claim 2 recites, inter alia, that when a base current of the bipolar transistor increases from an

idling current and exceeds a predetermined value, a current having an amount of exceeding the predetermined value flows from the bias circuit to the protecting circuit.

Independent Claim 3 recites, inter alia, a protecting circuit for detecting that a base current of the bipolar transistor increases from an idling current and exceeds a predetermined value and subtracting a detected amount of exceeding the predetermined value of the base current from the base current.

The inventions of Claims 1-3 are not anticipated by Prentice (US 5,357,089) relied upon in the rejection under 35 U.S.C. § 102(b). The circuit and method of Prentice are concerned with detecting and limiting a reverse base current, which is related to a phenomenon known as avalanche multiplication. See column 1, lines 46-49; and column 2, lines 13-18 and 58-62. The sensor 30 of Prentice senses a reverse base current above a predetermined value. See column 4, lines 29-30 and 44-55; and column 5, lines 10-21 and 44-47.

The rejection of Claim 1 on page 3 of the Office Action asserts that the overcurrent detection circuit (sensor 30) of Prentice is for detecting the magnitude and direction of the base current of the amplifying element, but it is apparent that the overcurrent detection circuit of prentice

detects the magnitude of a reverse direction base current, not an increase in base current from an idling current, which characterizes Applicants' invention. Unlike Prentice, Applicants do not wait for an avalanche breakdown to occur.

The secondary references relied upon in the rejection under 35 U.S.C. § 103(a) do not cure the deficiencies of Prentice. Moreover, there is no basis whatsoever for any combination of the teachings of the secondary references with the teachings of Prentice in any reasonable manner that would even attempt to cure the deficiencies of Prentice vis-a-vis Applicants' claims as now presented.

Finally, the assertion in response to Applicants' arguments, that, in addition to detecting the reverse current, the detective function of Prentice may also detect a forward base current of a power transistor amplifier (citing column 2, lines 55-57) is contrary to the specific teachings of Prentice. The "direction of a transistor's base current" detected by Prentice is a reverse base current direction, as clearly stated in column 2, line 61 of Prentice.

For the foregoing reasons, all of the claims now presented should be allowed, and this application should be passed to issue.

The Commissioner is hereby authorized to charge to

Deposit Account No. 50-1165 any fees under 37 C.F.R. §§ 1.16 and 1.17 that may be required by this paper and to credit any overpayment to that Account. If any extension of time is required in connection with the filing of this paper and has not been requested separately, such extension is hereby requested.

Respectfully submitted,

NHS:lmb

By: Nelson H. Shapiro
Nelson H. Shapiro
Reg. No. 17,095

Miles & Stockbridge P.C.
1751 Pinnacle Drive
Suite 500
McLean, Virginia 22102
(703) 903-9000

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ABSTRACT OF THE DISCLOSURE

A power amplifier module is provided with a function of protecting an amplifying device against destruction caused by a standing wave by reflection from an antenna end in load variation. Increase in base current from idling current of a final stage amplifying portion GaAs-HBT in load variation is detected and canceled and collector current is restrained to thereby prevent an increase in output and prevent destruction of GaAs-HBT. By also using a function of successively lowering idling current when power source voltage is elevated and a clipping function of diodes connected in parallel with output stage GaAs-HBT, voltage as well as current more than necessary are avoided from being applied on the output stage GaAs-HBT.